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A Comprehensive look into Cultivational Practices of Moringa

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Many tribes have employed moringa leaves for ages in their traditional medicine. They are now generating interest from the contemporary scientific community. Moringa has been mentioned in more than 750 recent research, journals, and other publications (see examples on page 30). Many studies, however, either include animal experiments or nutritional assessments. Studies on the consequences on people are quite rare. The time has come for medically supervised studies with human participants that outline the bioavailability of nutrients in Moringa leaves and their efficacy over an extended length of time in light of the potentially immense benefits to humanity. The Moringa tree originated in the Indian subcontinent and has since spread throughout the tropical and subtropical world. There are several variations because of its self-adaptation to local settings. In order to determine the nutritional value and impacts of the leaves in various regions, specific research are required.

History

The most well-known of the thirteen species that make up the genus Moringacae is Moringa oleifera. Ancient cultures regarded moringa as being of great importance. From the seeds, the Romans, Greeks, and Egyptians derived edible oil that they used for lotion and perfume. The oil from Moringa plantations in the West Indies was shipped to Europe in the 19th century for use in perfumes and lubricants for equipment. Moringa pods have been consumed as food for a very long time on the Indian subcontinent. Eaten in regions of Asia and West Africa, the leaves are palatable.

Identification of Species

Family: Moringacae, *Moringa oleifera*
Range: Originally from the Indian subcontinent, but now naturally occurring in tropical and subtropical regions all over the world.

Characteristics

Fast-growing, drought-resistant, deciduous tree or shrub that matures to an average height of 12 metres

Varieties

Twelve other Moringa species are known as well: M. arborea ,M. borziana ,M. concanensis, M. drouhardii ,M. hildebrandtii ,M. longituba, M. ovalifolia , M. peregrina ,M. pygmaea ,M. rivae, M. ruspoliana ,M. stenopetala.

Importance of all the parts

The Moringa tree is claimed to be useful in all of its parts. Which can benefit humanity. Individuals in cultures all around the world have used these characteristics.
Moringa Leaf Nutritional Value: According to nutritional assessments, moringa leaves contain a variety of vital, disease-preventing elements. It's unusual for a plant source to have

all the required amino acids, yet they do. Except for vitamin C, many of these nutrients are present in higher concentrations in dried leaves due to their concentration. Vegetable matter's nutritional value might vary based on the variety, season, climate, and soil. As a result, various analyses yield various results. For instance, contrary to what is indicated below, some research indicates that the potassium content of Moringa leaves is lower, and the iron content is higher. Gopalan, et al. provided the information about fresh moringa leaves utilised in this book, with many of their findings based on research carried out at Hyderabad, India's National Institute of Nutrition. Carotene, vitamin A's precursor, is found in vegetables and is the source of vitamin A. Only a small portion of the carotene in food is absorbed by the intestines. As a result, opinions on how to determine the quantity of carotene that is absorbed and converted to vitamin A vary. According to Gopalan et al and Fuglie only provide the carotene or beta-carotene numbers. The most widely used formula for converting carotene to vitamin A (retinol).

Production of moringa

The fast-growing, drought-tolerant, and easily adaptable Moringa oleifera Lam., a member of the Moringaceae family, thrives in a variety of environments and farming practises. It holds a distinct and enduring place in the Indian vegetable market. The demand for its products and, consequently, the area under its cultivation is rising due to its multiple uses, free flowering nature, and ease of cultivation. Tamil Nadu, Karnataka, Kerala, and Andhra Pradesh are the southernmost states in India where moringa is primarily grown. Even though perennial kinds have been known for a very long time, their cultivation is plagued by a variety of production challenges, including a lengthy prefruit bearing phase, the lack of planting materials, and the need for a bigger number of plants. Many wet days in areas with a lack of water and a susceptibility to pests and diseases.

India's conditions for both small-scale and large-scale moringa farming

Rajangam et al. (2001) researched and reported on the challenges experienced by annual moringa farmers. The following are the main variables affecting large-scale production's profitability:

- Choosing high-yielding varieties with marketable qualities
- Planting at the appropriate season and according to the most recent agricultural techniques
- Pest control
- Ratoon crop management
- Post-harvest management
- Examining the potential for processing and exporting young, fresh pods

The following are restrictions and constraints on commercial cultivation

Due to its high cross-pollination rate and high degree of yield and component variability, the crop is highly heterozygous. Therefore, the restriction is the upkeep of genetic purity. August through September must be scrupulously observed as the sowing period. When the water table is always at its lowest, which is in the summer and windy seasons, commercial crops need irrigation. The incidence of fruit flies (Gitona sp.) is not properly controlled. Poor packaging methods (uncovered bundles or in gunnies) Cold storage facilities are required because to the seasonal surplus.

Harvest

The compound leaves of the moringa tree are made up of several leaflets in one single leaf. The term "leaf" in this context refers to a group of leaflets that are linked to the rachis, which grows from the branch. Shoots and leaves should be manually harvested with a set of shears, a sickle, or a sharp knife. All shoots should be clipped between 30 cm and 1 m above the

ground, depending on the desired height. Large-scale, intensive leaf production could likewise be accomplished with mechanical harvesters. Another method of harvesting involves removing the leaves and taking the fruit straight from the tree. At the petiole's base, they are simple to remove. This method of harvesting is speedier, but the trees won't have benefited from a good pruning, thus the subsequent growth is weaker. Maintaining a high standard of hygiene is important. The coldest part of the day, such as early in the morning or late in the evening, should be used to gather produce. To prevent rot during transportation, it's crucial to ensure there is no dew on the food before harvesting, especially in the morning.